

Appl. No. 10/043,827
Amendment dated February 28, 2005
Reply to Office Action of August 31, 2004

REMARKS

Applicants have received and reviewed an Office Action dated August 31, 2004. By way of response, Applicants have amended claims 1 and 48. Claims 1-3, 8-11, 14-17, and 48 are pending. No new matter is presented.

Support for the amendment to claim 1 can be found throughout the specification, including at least at page 8, lines 21-26.

For the reasons given below, Applicants submit that the pending claims are in condition for allowance and notification to that effect is earnestly solicited.

Petition for Extension of Time

It is noted that a three-month petition for extension of time is necessary to provide for the timeliness of the response. A request for such an extension is made extending the time for response from November 30, 2004 to February 28, 2005.

Rejection of Claims Under §112, Second Paragraph

The Examiner rejected claims 1-3, 8-11, and 14-17 under 35 U.S.C. §112, second paragraph. The Examiner objected to a phrase employed in claim 1. Applicants respectfully traverse this rejection.

Nonetheless, without acquiescing to this rejection, without narrowing claim 1, and solely to expedite allowance of claims in this application, Applicants have amended claim 1 to remove the phrase objected to in the Office Action.

Accordingly, it is believed that the amended claims fully comply with §112, second paragraph, and withdrawal of this rejection is respectfully requested.

Rejection of Claims Under §102(e)

The Examiner rejected claims 1-3, and 8-11 under 35 U.S.C. §102 as anticipated by Hilgren et al. (U.S. Patent No. 6,514,556) The Examiner rejected claim 48 as being anticipated by Inglis et al. (U. S. Patent No. 6,265,006). Applicants respectfully traverse these rejections.

The Office Action asserts that the Hilgren et al. patent discloses a method of treating poultry with antimicrobial agent and irradiating it with less than 0.3 kGy, namely 0 kGy. The

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Office Action asserts that the Inglis et al. patent, which teach a method of treating certain food product with antimicrobial agent and irradiation with less than 1.5 kGy, namely 0 kGy.

First Applicants respectfully point out that the present invention relates to methods including contacting with an antimicrobial agent and irradiating. Neither of the cited references discloses or suggests irradiating a food product. Accordingly, these references neither teach nor suggest the presently claimed invention.

Nonetheless, solely to advance prosecution of the present application, Applicants have amended claims 1 and 48. Amended claim 1 recites "irradiating the food product with 0.05 kGy to about 0.5 kGy". Amended claim 48 recites "irradiating the food product with about 1.5 kGy". As such, the amended claims do not include the absence of irradiation (e.g., irradiation with 0 kGy). Accordingly, the references cited in this rejection neither teach nor suggest the presently claimed invention.

Accordingly, based on the foregoing differences, Applicants respectfully submit that the references cited in these rejections neither teach nor suggest the presently claimed invention, and withdrawal of these rejections is respectfully requested.

Rejection of Claims Under §103(a)

Claims 14 and 15

The Examiner rejected claims 14-15 under 35 U.S.C. §103 as obvious over Hilgren et al. in view of Welt et al. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the amendment to claim 1 that overcomes the rejection under § 102(e) also overcomes this rejection.

The Office Action asserted with respect to claims 14-15 that it would be obvious to incorporate the gamma radiation of Welt et al. into the invention of Hilgren et al. since both are directed towards reducing microbial contamination of goods. Applicants respectfully disagree.

The presently claimed invention relates to a method for reducing microbial burden on a food product, which includes contacting the food product with an antimicrobial agent and irradiating the food product. The present method unexpectedly and advantageously provides for use of less irradiation when the food product is also contacted with antimicrobial agent. In

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certain circumstances, contacting and irradiating produce a synergistic reduction in microbial burden on the food product (present specification at least at page 4, lines 5-7).

The Hilgren et al. patent discloses compositions of antimicrobial agents including peroxyacetic acid and peroxyoctanoic acid and methods for reducing microbial contamination on poultry (see, e.g., col. 1, lines 5-10). The Hilgren et al. patent relates to treating poultry and poultry products with certain antimicrobial agents, but does not discuss other food products. For example, the Hilgren et al. patent does not relate to treating red meat, pork, ready to eat food, fruit, wheat, seed, sprout, or seasoning. Thus, the presently claimed invention is not obvious in light of the Hilgren et al. patent at least because the present invention greatly expands the universe of food products for which a method including contacting antimicrobial agents and irradiating can effectively reduce microbial populations.

Further, the Hilgren et al. patent does not relate to irradiating food product as claimed. The Hilgren et al. patent discloses, for example, methods employing activating light, such as ultraviolet light, infrared light, and visible light, or radar and microwave. This does not disclose or suggest employing the methods of claims 14-15, which include "gamma-radiation, X-rays, electron beam, or a combination thereof" and "gamma-radiation produced by cobalt-60 or cesium-137", respectively.

The disclosure of the Welt et al. patent does not remedy the shortcomings of the Hilgren et al. patent. The Welt et al. patent addresses the use of gamma irradiation on food products. However, the Welt et al. patent lacks any suggestion or motivation to use antimicrobial agents in conjunction with irradiation to sanitize food. In fact, the Welt et al. patent fails to disclose or suggest alteration of the food product in any fashion either before or after irradiation to further decrease microbial populations. Therefore, the Welt et al. patent fails to suggest that one could effectively use irradiation in conjunction with antimicrobial agent to achieve the same result. Thus, the combination of references employed in this rejection fails to teach or suggest the subject matter of claims 14 and 15.

Further, neither patent cited in this rejection discloses or suggests that a combination of both gamma radiation and peroxycarboxylic acid would produce synergistic reduction in microbial burden on the food product. Applicants accomplished a significant invention by discovering that less irradiation can be used when combined with antimicrobial agents to achieve

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a reduction in microbial populations. Therefore, the claimed invention creates unexpected results. Hilgren et al. in light of Welt et al. lacks any suggestion that contacting and irradiating produce synergistic reduction in microbial burden on the food product.

Claims 16 and 17

The Examiner rejected claims 16-17 as obvious over Hilgren et al., in view of Welt et al., in view of JP 11339701A. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the amendment to claim 1 that overcomes the rejection under § 102(e) also overcomes this rejection.

As stated hereinabove, the combination Hilgren et al. with Welt et al. neither teaches nor suggests the presently claimed invention. The JP 11339701A publication does not remedy the shortcomings of these first two references. Thus, this combination of references neither teaches nor suggests the presently claimed invention.

The abstract of JP 11339701A addresses the use of tungsten or single-sided irradiation on food products. However, this document lacks any suggestion or motivation to use antimicrobial agents in conjunction with irradiation to sanitize food. In fact, this document fails to disclose or suggest alteration of the food product in any fashion either before or after irradiation to further decrease microbial populations. Therefore, the JP 11339701A abstract fails to suggest that one could effectively use irradiation in conjunction with antimicrobial agent to achieve the same result. Thus, the combination of references employed in this rejection fails to teach or suggest the subject matter of claims 16 and 17.

Conclusion

Accordingly, based on the foregoing differences, Applicants respectfully submit that the references cited in these rejections neither teach nor suggest the presently claimed invention, and withdrawal of these rejections is respectfully requested.

Summary

In summary, Applicant submits that each of claims 1-17 and 48 is in condition for allowance, and notification to that effect is earnestly solicited. The Examiner is invited to

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contact Applicants' undersigned representative at the telephone number listed below, if the Examiner believes that doing so will expedite prosecution of this patent.

Respectfully submitted,

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